

Claim 1 (currently amended). A system for locating and tracking at least one rover unit from a mobile controller unit comprising:

- a mobile controller unit comprising;
 - a cellular telephone module;
 - a GPS receiver/processor module;
 - a specially programmed computer;
 - a display;
 - a power source;

a rover unit comprising;

- a cellular telephone module;
- a GPS receiver/processor module;
- a specially programmed computer;

a power source;

3. Power source;

the mobile controller unit being programmed to have a find feature which includes selection of a command to establish a radio communication link with the rover and to obtain the rover's position information from the rover's radio-positioning GPS receiver/processor module and, using the controller unit's position information from its GPS receiver/processor, to calculate the relative spatial position of the controller and the rover ~~in-a-suitable-coordinate-system~~ and the controller unit being further equipped to obtain its heading and programmed to use the heading and programmed to calculate absolute positions of the controller and the rover on a map whereupon the selected one of the relative spatial positions a bearing line to the rover relative to the controller's heading and position and is programmed to calculate absolute positions of the controller and the rover are available to be displayed on the display upon selection by the user

Claim 2 (currently amended). The system of Claim 1 in which the controller unit and the rover unit use a ~~commonly-tracked~~ common suite of GPS satellites.

Claim 3 (currently amended). The system of Claim 1 in which the controller unit is equipped with a compass to ~~provide obtain~~ obtain heading of the controller unit and to use the heading so provided to calculate and to allow display of relative the bearing to the rover unit.

Claim 23 (new). The system of claim 1 in which the controller unit uses GPS information to obtain its heading.

Claim 39 (new). The system of claim 1 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 51 (new). The system of claim 1 in which the controller is programmed to calculate the speed of movement of the rover and to enable its display.

Claim 52 (new). The system of claim 1 in which the controller is programmed to calculate the height of the rover relative to the controller and to enable its display.

Claim 53 (new). The system of claim 1 in which the controller is programmed to calculate and equipped to give an audible announcement of the rover's bearing direction and distance from the controller.

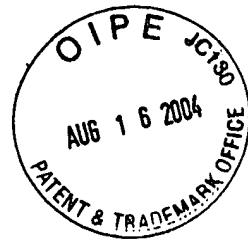
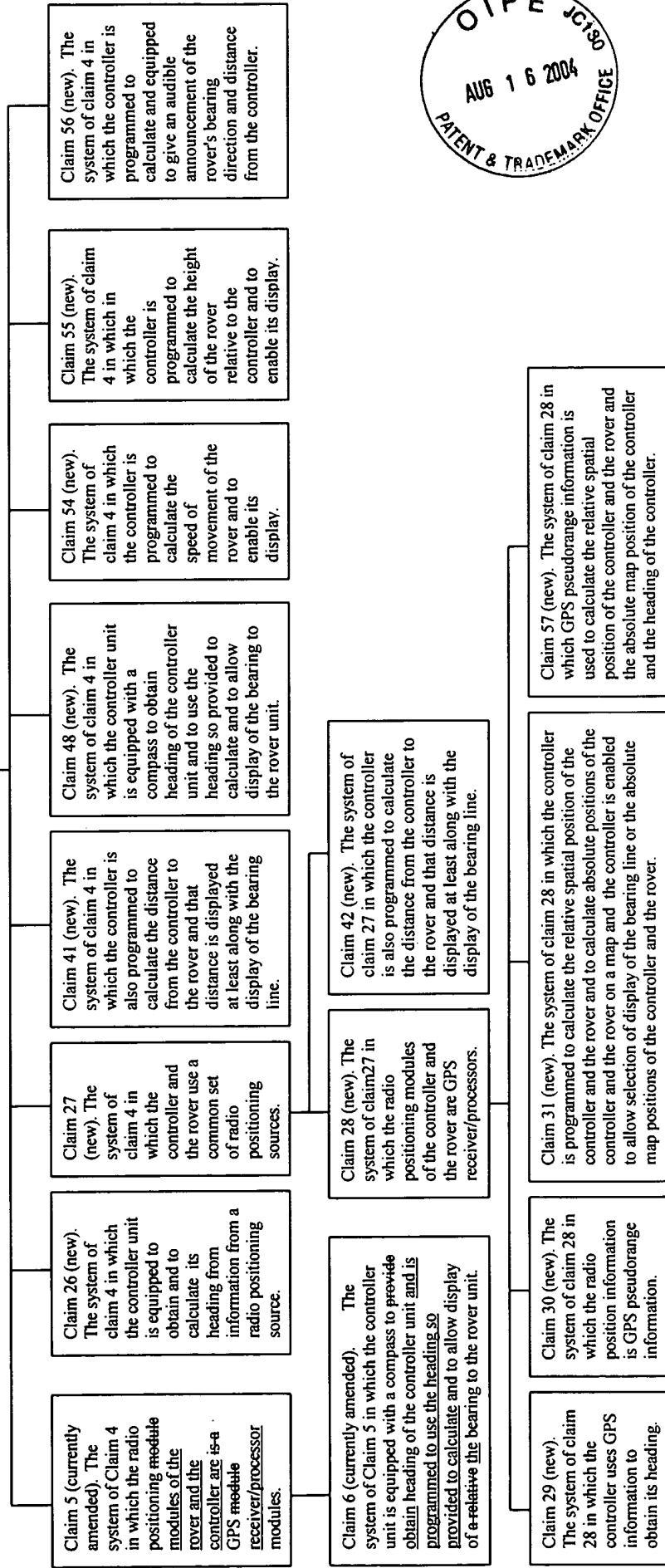
Claim 40 (new). The system of claim 2 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 25 (new). The system of claim 2 in which GPS pseudorange information is used to calculate the relative spatial position of the controller and the rover and the absolute map position of the controller and the heading of the controller.

Claim 24 (new). The system of claim 2 in which the radio position information is GPS pseudorange information.



Claim 4 (currently amended). A system for locating on demand a rover unit relative to a mobile controller unit comprising, a mobile controller unit having comprising a radio positioning receiver; a radio communications module and a control system including a specially programmed computer for sending instructions to a rover unit and for processing data received from its own and a rover's a radio positioning module and is equipped to obtain its heading at least one rover unit having comprising a radio positioning module, a radio communications module; a control system for receiving instructions from a controller unit and for sending radio positioning data to a controller unit, whereby the controller may is able to display obtain and process its own position and heading data and position data of the rover and may to display on a display associated with the controller relative spatial position of a bearing line to the rover relative to the heading and position of the controller or absolute map position of the rover and the controller.



Claim 7 (currently amended). A system for locating and tracking at least one rover unit from a mobile controller unit comprising;

a mobile controller unit comprising;

a radio communications module;

a radio positioning module;

a specially programmed computer;

a power source;

a rover unit comprising;

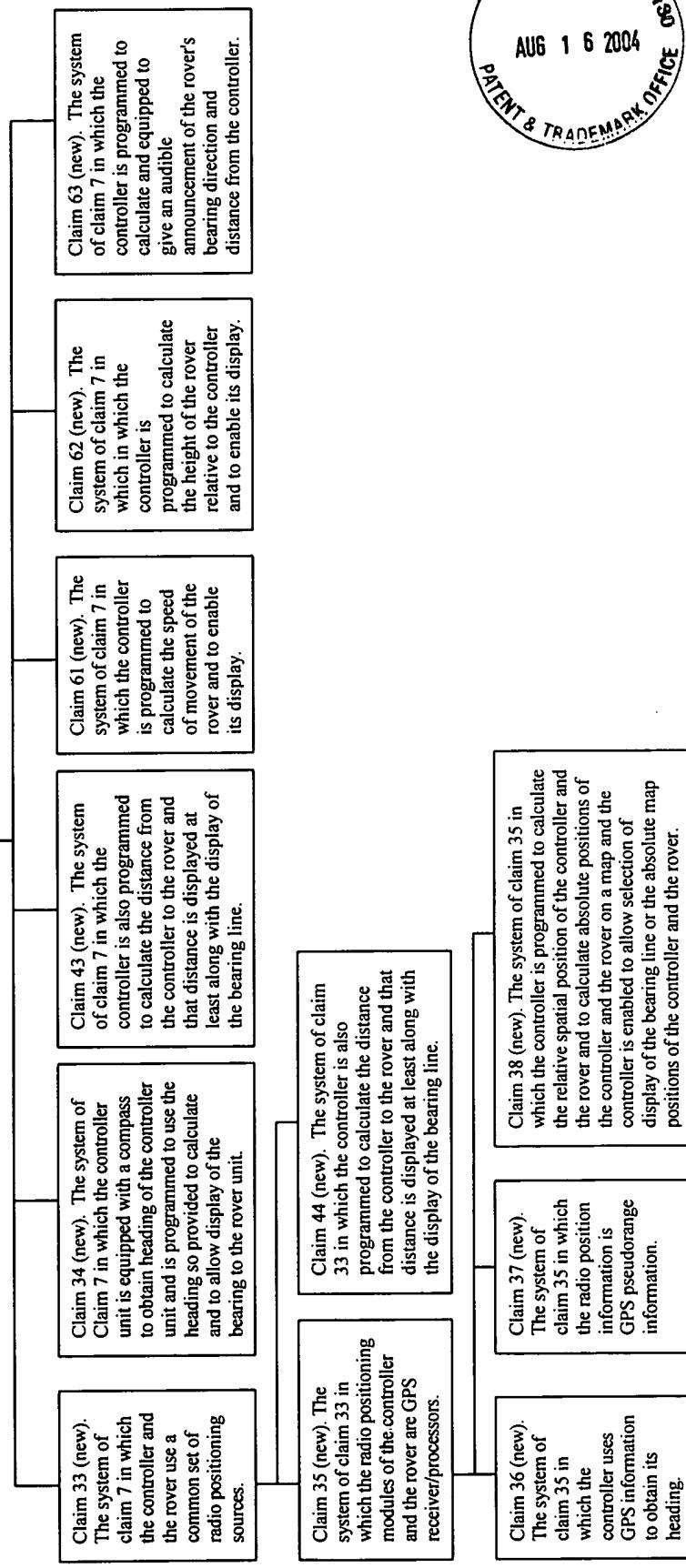
a radio communications module;

a radio positioning module;

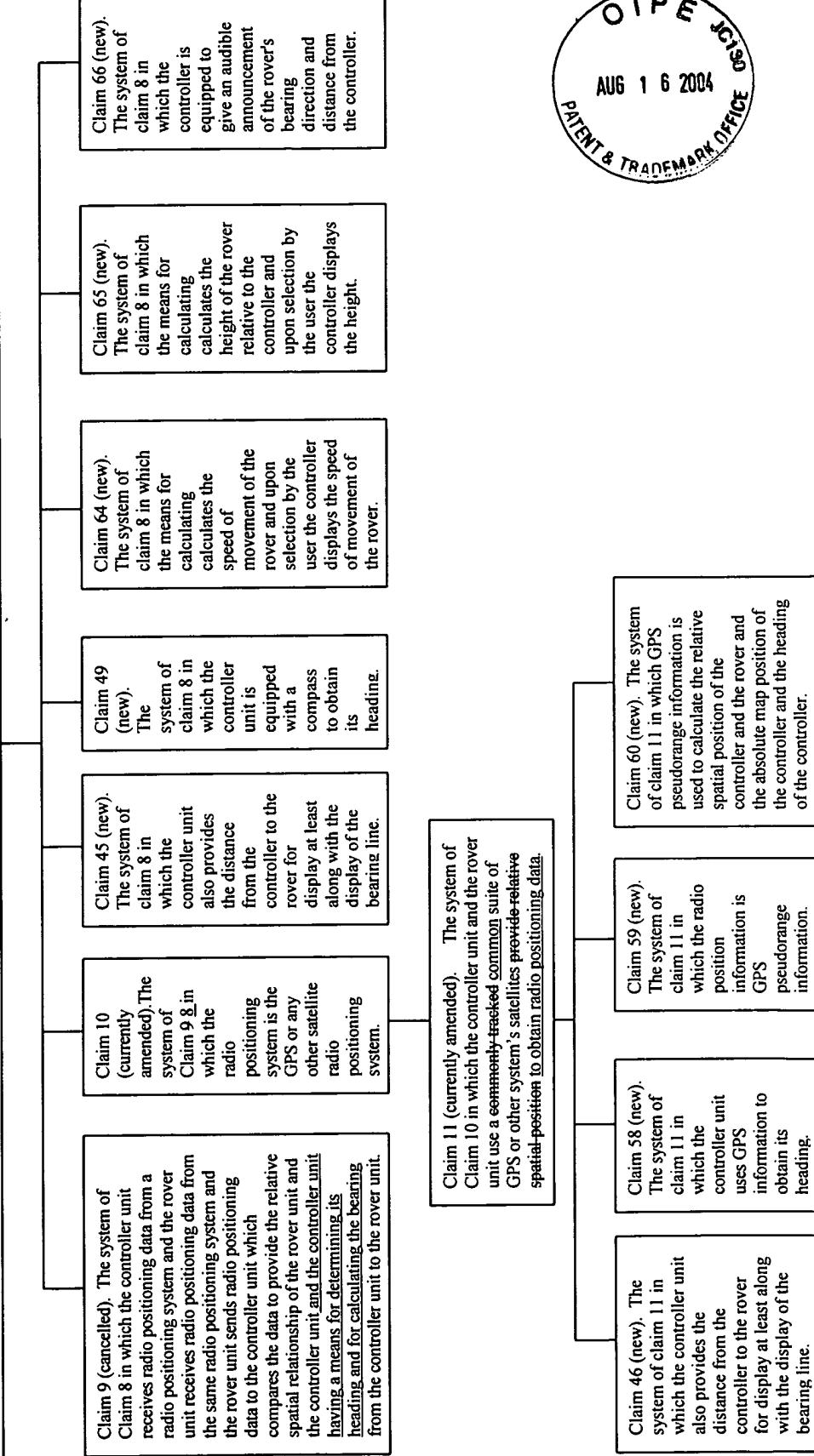
a specially programmed computer;

a power source;

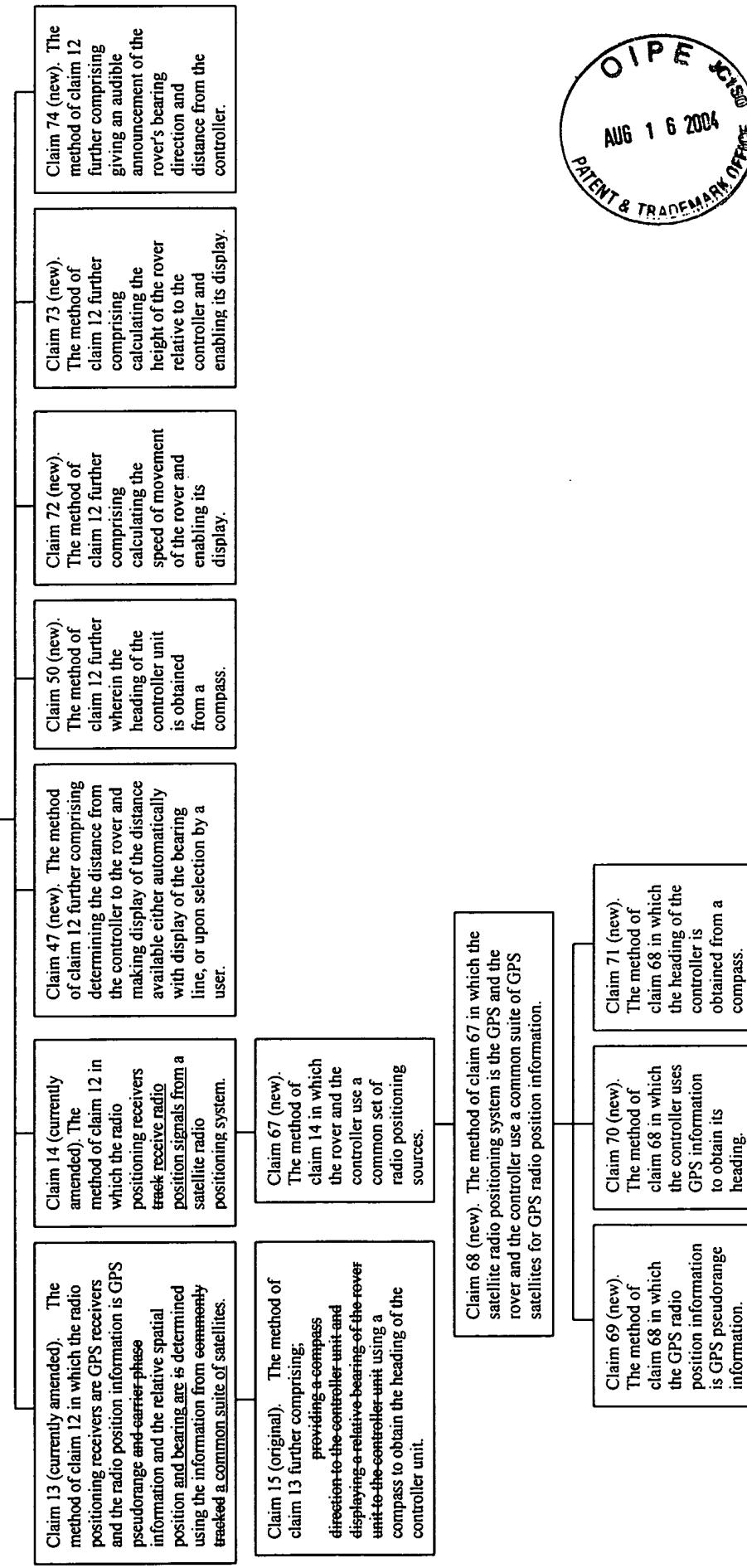
the mobile controller unit being programmed to have a find feature which includes selection of a command to establish a radio communication link with the rover and to obtain the rover's position information from the rover's radio positioning module ~~in-a-suitable-coordinate-system~~ and the controller unit being further equipped to obtain its heading and programmed to use the heading to calculate ~~up-to-command~~ ~~the-entire-as-center~~ bearing to the rover relative to the controller's heading and position and programmed to calculate absolute positions of the controller and the rover on a map whereupon the selected one of a bearing line to the rover relative to the controller's heading and position the relative spatial positions or the absolute map positions of the controller and the rover are available to be displayed on the display upon selection by the user.



Claim 8 (currently amended). A system for locating on demand a rover unit relative to a mobile controller unit comprising, a mobile controller unit having a radio positioning module and a radio communications module and a control system for sending instructions directly to a rover unit and for processing data received directly from a radio positioning module; at least one rover unit having a radio positioning module, a radio communications module; a control system for receiving instructions from a controller unit and for sending data directly to a controller unit whereby upon selection by a user, the controller may display position data of the rover and may make available for display a bearing line from the controller to the rover ~~relative spatial position of the rover or absolute map position of the rover and the controller.~~ the radio communications module and control system of the mobile controller having direct communications with the control system of the same unit such that radio data sent by the rover unit is received directly by the mobile controller unit, whereby the controller unit receives radio positioning data from a radio positioning system and the rover unit receives radio positioning data from a radio positioning system and the controller unit and the controller unit having a means for determining its heading and for calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit.



Claim 12 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have cellular telephones capable of intra-communication of data and each have a radio positioning receiver capable of providing its radio position information, and the rover has a means for sending radio position information to the controller unit upon demand comprising; opening a cellular telephone link between the controller and the rover; starting a procedure in which the rover's radio position information is sent to the controller; comparing the rover's radio position information with the controller's radio position information to calculate relative spatial position quantities of the controller and the rover unit; determining the heading of the controller unit and calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit; displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit ~~the relative spatial position information~~ on a display associated with the mobile controller unit.





Claim 16 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have radio communication capability between them such that the controller unit may upon query obtain information from the rover unit and each of the controller unit and the rover unit has a radio positioning module for obtaining radio positioning information such that radio position information of the rover unit will upon query be sent to the mobile controller unit and in which the mobile controller unit can process the radio position information to provide relative spatial relationship of the mobile control unit to the rover unit with periodic updates and displaying the relative spatial relationship on one or more displays associated with the mobile controller and the controller unit has a means for obtaining its heading, the method comprising:

the rover unit and the controller unit obtaining radio positioning information

the rover unit sending its radio positioning information to the controller unit;

the controller unit calculating the relative spatial position of the rover unit and the controller unit and the controller unit calculating its heading and the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit and displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit.



Claim 17 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have radio communication capability between them such that the controller unit may upon query obtain information from the rover unit and each of the controller unit and the rover unit has a radio positioning module for obtaining radio positioning information such that radio position information of the rover unit will upon query be sent to the mobile controller unit and in which the mobile controller unit can process the radio position information to provide relative spatial relationship of the mobile ~~earlier~~ controller unit to the rover unit with periodic updates, and the controller unit has a means to obtain its heading comprising:

determining the bearing from the mobile controller unit to the rover unit relative to the heading and position of the mobile controller unit;

and displaying on one or more displays associated with the mobile controller as selected by the user, ~~an arrow showing the a bearing line showing direction of the location of the rover unit~~;

relative to the position and heading of the mobile controller unit;

a map showing the location of both the mobile controller unit and the rover unit;

~~identification data representing the rover unit.~~

Claim 19 (currently amended)
The method of Claim 17 further comprising:

providing a compass to the controller unit to enable displaying of the relative bearing to of the rover unit from to the controller unit relative to the position and heading of the controller unit.

Claim 18 (currently amended). The method of Claim 17 further displaying one or more of the following:

the speed of movement of the rover unit;

the distance of the rover unit to the mobile controller unit;

the altitude of the rover unit relative to the mobile controller unit;

a map display showing the location of the rover unit and trail indicia showing display a history of the location of the rover unit over a specified period of time;

geographical coordinates of the rover unit.



Claim 20 (currently amended). A method of finding a rover unit by use of a mobile controller unit comprising:
sending a query to the rover unit by signal from a radio communication module in the mobile controller unit to a radio communication module in the rover unit;
responding to the query, from the rover unit with radio positioning information obtained from a radio positioning module in the rover unit and sent to the mobile controller unit by way of the radio communication modules in each unit;
the rover unit continuing to respond periodically with new radio positioning information;
comparing the radio position information sent to the mobile controller unit with radio positioning information received by the mobile controller unit by its own radio positioning module to determine relative spatial position and absolute map position of the rover unit;
obtaining heading of the mobile controller unit;
displaying on one or more displays:
an arrow showing the bearing line direction of the location of the rover unit relative to the position and heading of the mobile controller unit;
the speed of movement of the rover unit relative to the controller unit;
a map display showing the location of the rover unit and of the controller unit.

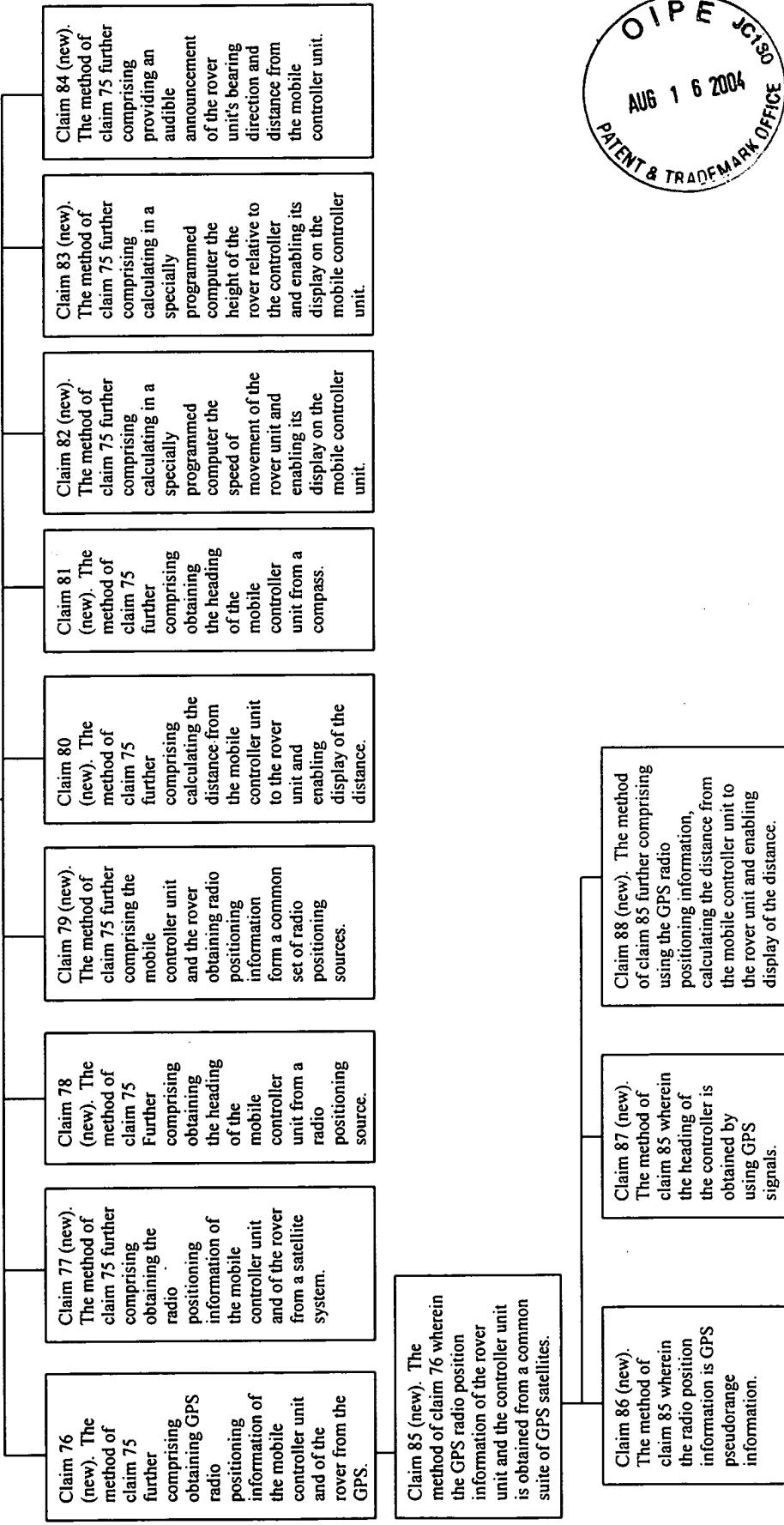
Claim 21 (original). The method of Claim 20 further comprising:
providing by an optional selection;
On said map display showing the location of the rover unit also showing a series of indicia showing a history of the location of the rover unit.

Claim 22 (currently amended). The method of Claim 21 wherein the radio positioning modules are GPS modules and the rover unit and controller unit use information from a common suite of GPS commonly-tracked satellites to provide relative spatial positions.



Claim 32 (new). A system for locating and tracking at least one rover unit from a mobile controller unit comprising
a mobile controller unit comprising:
a radio position receiver/processor module;
a display;
a rover unit comprising:
a radio position receiver/processor module;
a specially programmed computer that is enabled to obtain and use radio positioning information for
the rover and the controller from their respective radio position receiver/processors and heading information
for the controller and to calculate the bearing of the rover from the controller relative to the controller's heading
and position and to display on the display a bearing line from the controller to the rover relative to the
controller's heading and position.

Claim 75 (new). A method for locating a rover unit from a mobile controller unit comprising, the mobile controller unit obtaining its radio position information and its heading, the rover obtaining its radio position information, using the radio position information of the rover unit and the mobile controller unit and the heading of the mobile controller unit calculating with a specially programmed computer the bearing of the rover unit relative to the heading and position of the mobile controller unit, and displaying a bearing line from the mobile controller unit to the rover unit relative to the heading and position of the mobile controller unit.



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